

PUBLIC SERVICE COMMISSION OF WISCONSIN**Memorandum**

February 12, 2013

TO: The Commission

FROM: Robert Norcross, Administrator
Ali Wali, Docket Coordinator
Paul Rahn, Environmental Analyst
Jeff Kitsembel, Staff Engineer

RE: Joint Application of Wisconsin Electric Power Company, as
an Electric Public Utility, for Authority to Construct a New
Distribution Substation and Related Electric Distribution
Facilities in the City of Wauwatosa and American
Transmission Company, LLC, as an Electric Public Utility,
for Authority to Construct Related 138 kV Electric
Transmission Facilities in the Cities of Milwaukee and
Wauwatosa, all in Milwaukee County, Wisconsin (Western
Milwaukee County Electric Reliability Project) 5-CE-139

BRIEFING MEMORANDUM**Statement of the Proceeding**

On March 6, 2012, Wisconsin Electric Power Company (WEPCO) and American Transmission Company LLC (ATC) filed a joint application with the Public Service Commission of Wisconsin (Commission). WEPCO seeks authority under Wis. Stat § 196.49 and Wis. Adm. Code ch. PSC 112 to construct and place into operation a new distribution substation to serve the growing needs of the Milwaukee Regional Medical Center (MRMC) and surrounding area. ATC seeks authority under Wis. Stat. § 196.491 and Wis. Adm. Code ch. PSC 111 to construct and place in operation two 138 kilovolt (kV) electric transmission lines, each about two miles long, to provide transmission service to WEPCO's proposed new substation. The total project, encompassing the substation and transmission lines, is commonly referred to as the Western Milwaukee County Electric Reliability Project (Project).

By letter dated April 4, 2012, the Commission determined the application in this proceeding to be complete pursuant to Wis. Stat. § 196.491(3)(a)2. The Commission issued a Notice of Proceeding on April 20, 2012, and a Notice of Prehearing Conference on April 30, 2012. A prehearing hearing conference was held in this docket on May 9, 2012. The city of Wauwatosa (Wauwatosa), Milwaukee Montessori School (MMS), People Friendly Power (PFP), Milwaukee County, city of Milwaukee (Milwaukee), city of Milwaukee Alderman Michael J. Murphy, and Wisconsin Lutheran College, Inc. requested to intervene in this docket and were granted party status. The issue for the hearing as determined at the prehearing conference was whether the project complies with the standards that apply to construct two high-voltage transmission lines and a new substation as set out in Wis. Stat. §§ 1.11, 1.12, 196.025, 196.49, and 196.491, and Wis. Admin. Code chs. PSC 4, 111, and 112.

An Environmental Assessment (EA) was prepared by Commission staff in cooperation with the Department of Natural Resources (DNR) and the final EA was issued on October 29, 2012. The EA concluded that preparation of an Environmental Impact Statement was not warranted. The Notice of Hearing was mailed on October 12, 2012. The public hearing was held on November 27, 2012, in Wauwatosa, Wisconsin, while the technical hearing continued to November 28, 2012, in Madison, Wisconsin. The Notice of Hearing solicited testimony and comments on the proposed project from members of the public.

General Background -- Project Description, Purpose, and Cost

WEPCO proposes to build a new distribution substation, called the Milwaukee County Substation (MC Substation). The new 138/13.2 kilovolt (kV) substation would be located on the Milwaukee County Power Plant (MCP) property and would replace the existing substation on the same property. The existing substation would remain in service until the new substation is

completed and all distribution feeders are transferred. The new substation will initially consist of two transformers but will be expandable to five transformers as future needs develop. The MC Substation is estimated to cost about \$10.8 million. To provide transmission service to the MC Substation, ATC proposes to construct two new 138 kV transmission lines asserting that two transmission lines are necessary to reliably serve the proposed MC Substation which, in turn, will provide service to the Level 1 Trauma Center in the MRMC. One line (from the west) would tap ATC's existing Bluemound-Tosa 138 kV line either at the intersection of West Walnut Road and North 120th Street or just south of the intersection of West Diane Drive and North 120th Street in Wauwatosa. The other line (from the south) would originate at the existing 96th Street Substation, also in Wauwatosa. Several route alternatives are proposed, either by ATC or by other intervenors, for each proposed transmission line, including overhead and underground construction alternatives. The estimated cost for construction of the transmission lines ranges from \$23.3 million to \$56.4 million depending on the alternatives selected.

Issues

Milwaukee County Substation

- 1. Will the proposed MC Substation, if constructed, substantially impair the efficiency of utility service, provide facilities unreasonably in excess of probable future requirements, or add to the cost of service without proportionately increasing the value or available quantity of service, pursuant to Wis. Stat. §§ 196.49(3)(b)1., 2., and 3.?**

WEPCO witness Steven Pecha testified that the new MC Substation is required to provide reliable electric power to the growing electrical loads in the western portion of Milwaukee County. This includes the MRMC as well as customers in the redevelopment along State Highway 100 and the area surrounding U.S. Highway (USH) 45 and Burleigh Street.

WEPCO also anticipates that reconstruction of the Zoo Interchange will spur further

development in this corridor. Because of the increased electrical demand, the existing 96th Street and MC Substations are approaching their capacity. WEPCO anticipates that by 2016, these loading levels will result in equipment overloads and inadequate service reliability in certain single contingency conditions. WEPCO states that the proposed substation will eliminate both the capacity and service reliability problems and will also improve the voltage quality and ensure an efficient electrical supply for the expected load growth in the area.

(Direct-WEPCO-Pecha-2-3, 7-8, Ex.-WEPCO-Pecha-1 at 2, Direct-PSC-Kitsembel-1-3, 5-6.)

WEPCO states that in recent years, MRMC has undertaken a broad construction program. MRMC projects that its load will increase to 41.9 megavolt ampere (MVA) by 2021. Past projections of load growth at MRMC have been very accurate. WEPCO anticipates that the MRMC projections of future growth will be equally accurate. It expects an 85 to 90 percent realization of load planned for this area.

In addition to the forecasted MRMC load growth, load growth is also anticipated on the 24.9 kV system in this area. The Milwaukee County Grounds include some of the last major undeveloped tracts of land in metropolitan Milwaukee. Due in part to its location, the availability of land, and its proximity to major highways, this area has been proposed as the site for a number of projects. Development proposed to date, including initial load projections through 2020 that could be served by the 24.9 kV line, are estimated to be from 16 MVA to 48 MVA. To continue to provide adequate service in this area, WEPCO asserts that the proposed MC Substation is needed. (Direct-WEPCO-Pecha-3-5, Ex.-WEPCO-Pecha-1 at 2-3, Direct-ATC-Andrew-8, Ex.-ATC-Aeschbacher-1 (application-4-5, TSD-Appendix C-Exhibit-1 at 4-5), Direct-PSC-Kitsembel-2.)

WEPCO estimates that its total cost of the MC Substation is \$10,864,000. This cost estimate includes capital costs associated with site preparation, substation foundations and equipment, distribution feeders, allowance for funds used during construction, the cost of removal, and operation and maintenance expense during construction. This estimated cost does not include costs related to ATC's costs to interconnect the proposed transmission lines to the MC Substation. ATC's substation-related costs are estimated to be about \$3.3 million. (Direct-WEPCO-Pecha-8, Ex.-WEPCO-Pecha-1 at 8, Ex.-ATC-Aeschbacher-1, Direct-PSC-Kitsembel-8.)

Commission Alternatives

Uncontested Alternative: The proposed MC Substation is needed to meet anticipated load growth in the area of the MRMC. When constructed, it will not substantially impair the efficiency of utility service, provide facilities unreasonably in excess of probable future requirements, or add to the cost of service without proportionately increasing the value or available quantity of service.

Transmission Lines

- 2. Will the proposed transmission project, if constructed, satisfy the reasonable needs of the public for an adequate supply of electric energy as required for Commission approval under Wis. Stat. § 196.491(3)(d)2., without substantially impairing the efficiency of utility service, providing facilities unreasonably in excess of probable future requirements, or adding to the cost of service without proportionately increasing the value or available quantity of service, pursuant to Wis. Stat. §§ 196.49(3)(b)1., 2., 3., and 196.491(3)(d)5.?**

Need for Transmission Lines

Given the uncontested need for WEPCO's proposed MC Substation, the substation will require interconnection to the existing transmission system through the construction of new transmission facilities.

ATC stated that, given the importance of Level 1 trauma centers to the public, it developed a Level 1 Trauma Center Exception Guide (Guide). This Guide is provided as Appendix C, Exhibit 2 to ATC's application (Ex.-ATC-Aeschbacher-1). The Guide establishes appropriate criteria for serving substations that serve Level 1 trauma centers to ensure highly reliable transmission service. ATC states that implementation of the Guide's criteria will ensure that WEPCO's new distribution substation will maintain the high degree of reliability that the MRMC Level 1 trauma centers currently have from the existing system. However, if the Guide's criteria are not implemented, the result of this transmission project would be less reliable service to the Level 1 trauma centers.

The Guide provides for redundant service to substations serving Level 1 trauma centers. ATC states that from a transmission perspective, this requires two transmission lines to serve the substation. Redundant transmission service ensures no loss of power to the substation under first contingency (N-1) conditions on the transmission system. (Direct-ATC-Aeschbacher-6, Ex.-ATC-Aeschbacher-1(application-2-3, TSD-1-4, 17-18, TSD-Appendix C-Exhibit 1 at 6-23, TSD-Appendix C-Exhibit 2, Direct-ATC-Andrew-3-7, Direct-PSC-Kitsembel-6-7.)

Because of the relatively close proximity of the proposed lines as they enter the new substation, ATC proposes to underground at least one of the two lines as it nears the substation. Additionally, ATC proposes to install duplicate phase conductors in separate duct banks for any underground segment of the underground line. If both approved lines contain underground segments, ATC proposes to install the duplicate phase conductors just on the approved line with the shortest total underground portion. The purpose of the spare conductors is to minimize any repair outage time in case of outages caused by line failure.

Cost of Transmission Lines

The estimated cost of the proposed transmission lines ranges from \$23.3 million to \$56.4 million depending on the routes and construction method (overhead or underground) chosen. The estimated cost for each of the proposed routes is discussed below in the route alternatives section.

Commission Alternatives

Uncontested Alternative: The proposed two independent transmission lines are needed to provide reliable transmission service to the proposed MC Substation. When constructed, the proposed transmission lines will not substantially impair the efficiency of utility service, provide facilities unreasonably in excess of probable future requirements, or add to the cost of service without proportionately increasing the value or available quantity of service.

3. Are there technically feasible and environmentally sound alternatives to building the proposed project, per Wis. Stat. §§ 1.12(4) and 196.025(1)? Specifically, is energy efficiency and conservation a reasonable alternative to the proposed project?

As alternatives to this project, WEPCO evaluated distribution alternatives, utility-owned generation alternatives, and back-up generation. Non-transmission alternatives, including conservation and energy efficiency, cannot provide the high degree of long-term reliability required by MRMC and its Level 1 trauma centers. (Direct-WEPCO-Pecha-5-7, Ex.-WEPCO-PECHA-4 at 6, WEPCO Init. Br. at 4, Ex.-ATC-Aeschbacher-1 (TSD-Appendix c-Exhibit 2), Direct-PSC-Kitsembel-3-5.)

Commission Alternatives

Uncontested Alternative: Energy efficiency and conservation is not a technically feasible, cost-effective alternative to the proposed project.

4. If approved, would the proposed project have a material adverse impact on competition in the relevant wholesale electric service market under Wis. Stat. § 196.491(3)(d)?

The proposed project is intended to address local reliability issues. As such, it will not have a material adverse impact on competition in the wholesale electric service market. (Direct-ATC-Andrew-9, Hodgson, Tr. Vol. 2 187-188, 191-192, Ex.-ATC-Aeschbacher-1 (TSD-17, 23), Direct-WEPCO-Pecha-2-4, Direct-PSC-Kitsebel-6.)

Commission Alternatives

Uncontested Alternative: The proposed project addresses needs at the distribution level and will not have a material adverse impact on competition in the wholesale electric service market.

5. Has the Commission complied with the Wisconsin Environmental Policy Act (WEPA), pursuant to Wis. Admin. Code ch. PSC 4?

Commission staff prepared an environmental assessment that was issued on October 29, 2012. The assessment examines the impacts of the proposed Milwaukee County Substation (MCSS) and the routes proposed by ATC in its application. An environmental impact statement is not necessary. (PSC-Rahn-Direct at 1-2, Exs.-PSC-Rahn-1, 3.)

Commission Alternatives

Uncontested Alternative: The Commission has complied with the WEPA requirements. The Environmental Assessment was issued on October 29, 2012.

6. Do the routes proposed by ATC and other parties comply with Wis. Stat. § 1.12(6)?

All proposed routes in ATC's application follow existing highway, street, railroad or recreational trail corridors for nearly their entire lengths. The notable exception is Segment 10UG of Route B(3), which crosses undeveloped land, that is, however, the corridor of a planned

street. Route segments following the trail corridor are not proposed as underground. Proposed segments share existing right-of-way (ROW) only with highways and streets along the lengths of the segments. (Direct-PSC-Rahn-at 4-5.) Routes A, C, and D, and their variants were not substantially challenged under Wis. Stat. § 1.12(6).

PFP, however, notes that the statute permits the siting of electric transmission lines along recreational trails “to the extent that the facilities may be constructed below ground and that the facilities do not significantly impact environmentally sensitive areas.” Segments 8b, 9a and 9b of Route B run along the recreational Oak Leaf Trail. Segment 8b is located along Underwood Parkway, and Segments 9a and 9b are located adjacent to an off road portion of the trail. PFP argues that ATC’s application did not propose or even analyze placing Segments 8b, 9a, and 9b underground and that the line will significantly impact environmentally sensitive areas.

(Direct-PFP-W. Gonwa-at 16.)

The use of the Oak Leaf Trail for overhead lines rather than an underground line implies that the three segments are not entitled to the statute’s third priority position, but, arguably should be classed in the fourth “new corridor” priority slot. However, Segments 8a, 8b, 9a, and 9b also lie in the corridor of a railroad, although not in its ROW.¹ Arguably, the presence of the railroad justifies treating the particular segments as located in a second level “highway and railroad corridor” per Wis. Stat. § 1.12(6)(b).

Of the routes proposed by other parties, as described further below in the route alternatives discussion, no information was presented indicating that any of these routes would not comply with the routing priorities in Wis. Stat. §§ 1.12(6).

¹ Proposed Segment 8a does cross the railroad ROW to connect with Segment 9a on the south side of Underwood Creek.

The foregoing priority level determination intertwines, however, with the predicate siting consideration, that the statutory order of corridor siting preferences be honored “to the greatest extent feasible that is consistent with [1] economic and [2] engineering considerations, [3] reliability of the electric system, and [4] protection of the environment.” Wis. Stat. § 1.12(6). The foregoing statutory language requires a balancing of the four identified factors. In addition, the phrase “greatest extent feasible” arguably imposes a stringent, high threshold “weight” finding on the factors that would justify selecting a lower priority corridor when a “feasible” alternative exists higher up the ladder of preferred corridors.

Commission Alternatives

Alternative One: All routes, including B, comply with Wis. Stat. § 1.12(6).

Alternative Two: The B Route Segments 8a, 8b, 9a, and 9b cannot be found to comply with Wis. Stat. § 1.12(6).

7. If approved, would the proposed project routes comply with Wis. Stat. § 196.491(3)(d)6. and not unreasonably interfere with the orderly land use and development plans for the area involved?

To analyze impacts upon land use and development plans in the route areas, it helps to imagine the area as a box divided into four quadrants, with USH 45 freeway as the vertical division line, and Watertown Plank Road as a due east-west horizontal division line. With this quadrant image in mind, there are three sources of potential future change that will impact land use and development: (1) changes proposed for USH 45 and the Zoo Interchange in the south; (2) east-west transmission lines that originate in the northwest quadrant (Route A and variants) and just inside the southwest quadrant (Route B) and extend easterly to the northeast quadrant where the new MC Substation will be located; and (3) north-south proposed transmission lines

(Routes C and D) that originate in the southeast quadrant at the 96th Street substation and extend northerly, to the proposed MC Substation in the northeast quadrant.

Highway Changes. Work will begin shortly on the USH 45 Zoo Interchange reconstruction project. The work near Segment 5 (Routes A and B(1)) in the northeast quadrant will likely expand the highway ROW so that the segment would lie within a freeway ramp area. Nonetheless, ATC indicates that it would coordinate closely with the Wisconsin Department of Transportation (WisDOT) so that transmission line construction work and facility placement would not interfere with work on this and other affected freeway and street segments.

East-West Routes. The land use plans of the cities of Wauwatosa and Milwaukee largely show existing land uses in the northwest and northeast quadrants on either side of USH 45 as continuing into the future.

The notable exception is the northeast quadrant where the Milwaukee County grounds are shown as changing from “institutional” to “campus” use. This reflects the development of the UW-Milwaukee Innovation Park-Integrated Research Complex, consisting of an engineering and graduate school campus of the University of Wisconsin-Milwaukee and private research facilities. This complex is expected to become a major employment center. The site will include academic research and industry facilities, privately developed housing, and a wildlife habitat. Segment 10UG of Route B(3) follows the path of a planned street in the complex’s parkland, which includes trails located north of the segment. If Segment 10UG is used for the transmission line, the line would be buried and would not interfere with the development and operation of the research park or users’ enjoyment of the adjacent parkland.

If an aboveground line along Watertown Plank Road (Segment 6 of Routes A, B(1), C(1), and C-Alt-2) is built, the aesthetic impact would be unacceptable, in the view of Wauwatosa. (In

addition, the Milwaukee Metropolitan Sewerage District (MMSD) sewer re-route required for the new substation would extend into an area of the UW-Milwaukee Innovation Park where a parking lot is planned.)

The land essentially due west of the Innovation Park in the northwest quadrant—across USH 45 and north of Watertown Plank Road—is slated for re-development. This redevelopment plan is partly due to USH 45 reconstruction necessitating the relocation of some Milwaukee County government facilities. “Office park” is the planned future use designation of these highway-impacted lands (as well as for the land on the south side of Watertown Plank Road). Commission staff believes an aboveground transmission line on Segment 4 (Routes A, B(1), and B(3)) would be compatible with this redevelopment, although its argued “division” of the land north of Watertown Plank Road into two sections could constrain redevelopment.

Wauwatosa raises the “harm to development” argument. Wauwatosa is concerned that Segments 4, 5, and 6 of Route A would interfere with local development plans and have significant adverse economic impacts. City witnesses stated that an aboveground line through or near the development and redevelopment areas of the County grounds and UW-Milwaukee Innovation Park would render the area unsuitable for its planned office uses or make it more difficult to attract businesses. (Direct-W-Enders- at 5-7, Tr. Vol. 2-W-Enders-at 245-261, Direct-W-Miner-at 8, Tr. Vol. 2-W-Miner-at 256, Tr. Vol. 2-W-McBride-66.) Also with respect to Route A, a 50-unit residential building is planned to be located west of the closed city landfill, along Segment 2 of Route A. Part of the building would lie within 300 feet of the proposed transmission line centerline.

Separately, PFP claims that, if placed along Segment 3 of the A Routes (A, A-Alt-1, Wauwatosa Alt 1, Wauwatosa Alt 2, and Wauwatosa Resolution Route), a transmission line

corridor would conflict with the current use of the Underwood Creek floodplain. However, PFP does not identify any specific legal prohibition to placement of a transmission line through a floodplain. (Direct-PFP-W. Gonwa- at 10-11.)

With respect to Route B, a heavily-used bicycle and walking trail parallels the Route B options for about a mile. This trail, which is part of a countywide system of biking and hiking trails called the Oak Leaf Trail, lies along Routes B(1-3). Segments 9a and 9b follow a portion of the trail that is a paved, off-street path. Milwaukee County is on record as opposing the placement of the transmission line on the county-owned parkland containing the trail. The Milwaukee County Parks Department, the entity responsible for trail construction and maintenance, plans to move the trail off the Underwood Parkway roadway west of 115th Street and onto parkway land. Depending on the exact location of the new off-road trail, the loss of trees required to build a transmission line on Segment 8b could affect the aesthetics of the trail. Elsewhere, the transmission line could possibly affect any future realignment of the trail in the corridor.

With respect to the East-West Routes in general, ATC states that the proposed facilities do not unreasonably interfere with the orderly land use and development plans in the area, and believes that an approved line will not significantly impact property values.

(Direct-ATC-Holtz-23, Rebuttal-ATC-Jackson-at 3-12.)

North-South Routes. Milwaukee Montessori School (MMS) states that Routes C(1) and C(3) would interfere with MMS plans for a performing arts center on its property.

(Direct-MMS-Van Aken-at 48-49.) MMS agrees with the assessment of Janet Grau, Milwaukee's Project Manager for the West Side Area Plan, that "the installation of an overhead power line at the proposed location would negatively affect quality of life in the Cannon Park

residential area and the long term economic viability of the Milwaukee Montessori School, and would conflict with land use and development recommendations of the West Side Area Plan.”

(MMS-Van Aken-Ex. 15.)

Commission Alternatives

Alternative One: None of the proposed routes would unreasonably interfere with the orderly land use and development plans for the area involved.

Alternative Two: Some route segments would unreasonably interfere with the orderly land use and development plans for the area involved, and route alternatives using those segments should be eliminated from consideration.

8. Which route, if any, does the Commission authorize given the requirements for issuance of a CPCN under Wis. Stat. §§ 1.12(6) and 196.491(3)(d)3., 3r., 4., and 6.?

The proposed routes pass through a highly-developed part of the Milwaukee metropolitan area. All routes pass through lands of the Milwaukee County grounds. All routes except Route B(3) and C-Alt-2 enter the proposed MC Substation site from the south, and lie on the western edge of the Milwaukee County Power Plant property.

For this project, underground lines have been proposed for most locations where the routes pass through residential neighborhoods. The notable exception is the beginning part of the Route B options (Segments 8a, 8b, and part of 9a), which are aboveground along Underwood Creek. Where these lines would be located in the street beneath the pavement, little to no effect on property values would be expected. However, on Segment 1UG (Route A) where tap structures would be needed, the structures’ presence could potentially affect the future marketability of some homes.

ATC does not have a preferred route. All of the route alternatives ATC included in its application (Ex.-ATC-Aeschbacher-1) meet the electrical needs for the Project, are constructible

and are permissible. Some, though not all, of the route alternatives proposed by Commission staff or parties also meet these criteria. Ex.-ATC-Aeschbacher-6 (Revised) identifies most potential routes in this proceeding², both those developed by ATC and those presented to ATC that are feasible and satisfy the Reliability Guide. ATC did not include options that in its judgment were not constructible, were too costly, involved unreasonable impacts, or did not meet the Reliability Guide criteria.

Several alternative routes were raised by citizens during the public hearing. ATC witness Holtz commented on each, noting that those specific routes or major portions of those routes had previously been evaluated by ATC and were determined to be non-viable because of constructability, location, and cost factors. (Delayed Ex.-PSC-Wali-1 part 2 at 87-114, Tr. Vol. 3-at 129-138, Tr. Vol. 2-Holtz-at 182-185.)

ATC has estimated the construction cost for the routes it is actively considering. (Ex.-ATC-Aeschbacher-6 (Revised)) If both selected routes (one East-West and one North-South) have underground parts, the route with the shortest distance of underground would be built with two underground cables per transmission line phase (a total of six cables) in order to meet the Level 1 Trauma Center Reliability Guidelines. The other route with the longer length of underground would have only one cable per phase. A cost comparison can be made for each pair of routes selected. As a general rule, the routes with the greater length of underground are the more expensive.

Nevertheless, in general, members of the public favor underground construction over aboveground. Concerns about overhead construction include aesthetics, health impacts, and safety. (Delayed Ex.-PSC-Wali-1, Delayed Ex.-Kitsembel-2.)

² The exhibit does not cover the Wauwatosa Resolution Route or the S-2 and S-3 Routes.

Commission Route Alternatives

East-West Route Alternatives

ATC proposed in its application four possible routes to connect the 138 kV Bluemound-Tosa line to the new MC Substation. Additional routes were proposed by other entities, and of these, four are still under consideration. The East-West Routes now under consideration are:

- A—Walnut Road Hybrid
- B(1)—Underwood Creek Overhead
- B(2)—Underwood Creek Overhead-Watertown Plank Hybrid
- B(3)—Underwood Creek Overhead-County Grounds Hybrid
- Wauwatosa Alt-1—Hybrid
- Wauwatosa Alt-2—Underground
- Wauwatosa Resolution
- A-Alt-1

Route Descriptions

A—Walnut Road Hybrid consists of Segments 1UG, 2, 3, 4, 5, 6, and 7 (see Ex.-PSC-Rahn-2). Route A begins at the interconnection point located west of 119th Street. The line would follow Walnut Road east for 0.35 mile as an underground segment and then transition to aboveground to continue east, crossing the Union Pacific (UP) railroad and State Highway (STH) 100 (Mayfair Road). On the east side of STH 100 the route then turns south to parallel the highway and cross the Canadian Pacific railroad. Just north of Underwood Creek the route turns east, crossing the USH 45 freeway, and then parallels the east side of the freeway south to Watertown Plank Road. The route turns east to follow the north side of the street until it reaches a point just south of the proposed MC Substation site. The route then turns to proceed north into the MC Substation. The total route length is 2.3 miles at an estimated cost of \$11,971,850.

B(1)—Underwood Creek Overhead consists of Segments 8a, 9a, 9b, 4, 5, 6, and 7. (Ex.-PSC-Rahn-2.) Route B(1) begins at a proposed interconnection point located near 120th

Street and West Diane Drive in the Underwood Parkway. Route B(1) lies north of and parallel to Underwood Creek and the CP railroad until it crosses to the south side of the creek at 115th Street. The route continues, following Underwood Creek, crossing the UP railroad, Watertown Plank Road, and STH 100. The route then turns and continues east, crossing the USH 45 freeway, and then parallels the east side of the freeway south to Watertown Plank Road. Turning east, the route follows the north side of the street until it reaches a point just south of the proposed MC Substation site. The route then turns to proceed north into the MC Substation. The total route length is 2.1 miles at an estimated cost of \$6,509,350.

B(2)—Underwood Creek Overhead-Watertown Plank Hybrid consists of Segments 8a, 9a, 23UG, 18UG, and 19UG (see Ex.-PSC-Rahn-2). Route B(2) begins at a proposed interconnection point located near 120th Street and West Diane Drive in the Underwood Parkway and follows the same path as Route B(1) north of and parallel to Underwood Creek and the UP railroad until it crosses to the south side of the creek at 115th Street. Route B(2) continues to follow Underwood Creek, crossing the UP railroad, until it reaches Watertown Plank Road. At that point, the line would transition to underground as the route follows Watertown Plank Road east, crossing USH 45, until it reaches a point just south of the proposed MC Substation site. The route then turns to proceed north into the MC Substation. The total route length is 1.9 miles with an estimated cost of \$15,099,950-\$18,486,500.³

B(3)—Underwood Creek Overhead-County Grounds Hybrid consists of Segments 8a, 9a, 9b, 4, and 10UG (see Ex.-PSC-Rahn-2). Route B(3) begins at the same interconnection point located near 120th Street and West Diane Drive in the Underwood Parkway and follows the same path as Route B(1) to the east side of the USH 45 freeway. At that point, the line

³ Cost ranges in this section of the memo are based on whether any underground portion would have 1 or 2 cables per phase. See Ex.-ATC-Aeschbacher-6 (Revised).

transitions to underground and the route continues east on Segment 10UG to the MC Substation site. The total route length is 1.9 miles with an estimated cost of \$12,676,600.

Wauwatosa Alt-1—Hybrid is a variation of Route A, consisting of Segments 1UG, 2, 3, a new segment of overhead line along the Underwood Parkway, the eastern part of 23UG, 18UG, and 19UG. (Ex.-ATC-Holtz-2, p. 2.) The route is underground from the interconnection point, eastward to a point located east of 113th Street, where it transitions to overhead. The route would transition back to underground on the south side of Watertown Plank Road and then continue underground to the MC Substation. The total route length is about 2.3 miles and an estimated cost of \$21,325,000-\$24,596,000.

Wauwatosa Alt-2—Underground is similar to the Wauwatosa Alt 1 Route, consisting of the same segments, but would be entirely underground. (Ex.-ATC-Holtz-2, p. 3.) The total route length is about 2.3 miles with an estimated cost of \$30,078,000-\$40,573,000.

Wauwatosa Resolution is similar to the Wauwatosa Alt 1 Route, consisting of the same segments, but with an underground part along the Underwood Parkway road instead of overhead. The total route length is about 2.3 miles with an estimated cost of \$23,625,000-\$27,196,000.

A-Alt-1 consists of Segments 1UG, 2, 3, 4, and 10UG. It is similar to Route A, but substitutes Segment 10UG for Segments 5, 6, and 7 east of USH 45 in order to have an underground line entering the new MC Substation from the west. The total route length is 2.0 miles with an estimated cost of \$16,400,000-\$19,400,000.

Commission staff, who proposed the A-Alt-1 Route in an attempt to minimize overall environmental impact and project costs, considered a route combination that was not offered by ATC in its application. It would pair East-West Route A-Alt-1, and a North-South Route C-Alt 2. This particular route combination would avoid the impacts of the Route B options on

the Underwood Parkway for the east-west line. It would also meet ATC's reliability guidelines for a Level One Trauma Center.

Route Discussions

Route A begins in a residential neighborhood and heads east along Walnut Road, passing Wauwatosa's police station and public works department buildings and grounds. Opposite the police department, an 80-unit senior housing development is being constructed on the south side of Walnut Road, between 116th and 113th Streets. Another 50 units of apartments are planned nearby, west of a closed city landfill. The transition from underground to overhead construction would be in this area. East of the UP railroad, the route passes through a commercial area along STH 100 (Mayfair Road). Much of Segment 3 parallels a recently restored section of Underwood Creek. Segment 4 crosses the Milwaukee County grounds just north of the Milwaukee County Fleet Maintenance Facility and south of the Wisconsin Lutheran College athletic fields. Segment 5 parallels the east side of the USH 45 freeway, crossing a grassy, undeveloped area of the County grounds, where a portion of the Monarch Trail is located. Route A avoids most impacts to the Underwood Parkway. Although Route A is nearer more homes than any of the Route B options, it would be underground as it passes these homes.

Members of the public and Wauwatosa have identified two primary concerns related to Route A in the Walnut Road area. A number of residents who live near the intersection of Walnut Road and 120th Street raised concerns regarding the visual impact of connecting the existing overhead transmission facilities to the proposed underground line at Walnut Road; secondly, Wauwatosa and Walnut Road residents raised aesthetic and environmental concerns about the original proposed location of the Walnut underground segment (Segment 1UG) on the north side of Walnut Road, as it would require the removal of many landscape trees. (Direct-W-Mendl-7.)

ATC testified that it has addressed both of these concerns. ATC's original proposal for connecting the new line to the existing transmission system at Walnut Road anticipated installing five structures, three of which would be new and two of which would replace existing structures. In response to the visual impact concerns expressed by residents at the public hearing (see *e.g.*, Tr. at 313:18-317:10; 318:13-321:6; 331:20-24), ATC developed an alternative connection that would require installing only three structures, two of which replace existing structures and just one of which would be new. (Ex.-ATC-Aeschbacher-8 and Affidavit.) In addition, ATC offered to work with Wauwatosa and the residents to take steps to further screen the transition structure. As for the concerns related to the location of the Walnut Road underground segment, Segment 1UG, Wauwatosa has agreed to allow ATC to locate the line under Walnut Road (Direct-W-Mendl-8:2-12), thereby eliminating the need to remove the trees on the north side of the street.

All three of the Route B options (B(1), B(2), and B(3)) begin near 120th Street and West Diane Drive in the Underwood Parkway, in the midst of residential neighborhoods. The routes lie on parkway land as they follow the creek eastward. Segment 8a lies in a wooded wetland north of Underwood Creek and the double track of the CP railroad. Segment 8b is an alternative to Segment 8a that would place the line on the south side of Underwood Creek and minimize the impacts to the wooded wetland. Segments 9a and 9b follow the Oak Leaf Trail within the parkway. Routes B(1) and B(3) cross the Milwaukee County grounds just north of the Milwaukee County Fleet Maintenance Facility and south of the Wisconsin Lutheran College athletic fields. Route B(1) is identical to Route A between USH 45 and the proposed MC Substation site. Route B(3) is different in that it uses Segment 10UG to pass through undeveloped grassy land of the County grounds to reach the proposed MC Substation site. On

Segments 23UG and 18UG of Route B(2), the line would be buried in the Watertown Plank Road ROW between Underwood Parkway and a point just south of the proposed MC Substation site, passing through commercial, office, and institutional lands on either side of the street.

Two variants of Route A were developed by Wauwatosa. The first was a variation on the original route (Route A) that proposed to connect to the underground portion along Watertown Plank Road, rather than going overhead on Segment 4, behind the Milwaukee County garages. The second proposed to have the entire route placed underground. A map of each of these two routes is included as Ex.-ATC-Holtz-2.

Wauwatosa Alt-1

This hybrid route is similar to ATC's Route A at its western end, but would remain buried an additional, undetermined distance beyond 113th Street, where it would then transition to overhead. At the junction where the hybrid route meets the Underwood Parkway, the line would follow the Parkway in a southerly direction to Watertown Plank Road. From that junction point eastward, the line would again transition and be buried, and the underground route is similar to Route B(2). This hybrid route would largely eliminate concerns about an overhead line's impact to future development along the route. However, an overhead segment along Underwood Parkway, north of Watertown Plank Road, could require the removal of trees along the Parkway. This could reduce the screening from the west of the county lands on the east side of the road, as well as affect the aesthetics of the parkway.

Wauwatosa Alt-2

Wauwatosa's proposed all underground route is similar to the Wauwatosa Alt-1 Route. Besides the greatly reduced aesthetic impact due to the reduced visibility of an entirely underground line, the route avoids Route A's crossing of the middle of the Milwaukee County

grounds' northwest quadrant. This would remove a possible constraint on the redevelopment of these lands. The possibility of impacting the wetlands associated with the recently restored section of Underwood Creek adjacent to STH 100 would be reduced by moving the route from the east side to the west side of the highway. The route entirely avoids the impacts of the Route B options to Underwood Creek Parkway, the Oak Leaf Trail, and the wooded wetlands near the transmission line interconnection point. However, there are a number of significant constructability challenges with the route because of the required extensive directional bore under the railroad facilities and Underwood Creek. (Rebuttal-ATC-Holtz-39.). The route remains Wauwatosa's preference. (Direct-W-Mendl-13-17.) The Chairman of the co-applicant We Energies has supported this alternative. (Ex. W-McBride-8.)

Wauwatosa Resolution

This route is Wauwatosa's latest proposal. It avoids more aesthetic impacts than Wauwatosa Alt-1, but is more expensive and difficult to construct. ATC would prefer that the route transition to underground on the south side of Watertown Plank Road (as for Wauwatosa Alt-1) rather than at the east end of Segment 3. This is a route that was identified by Wauwatosa's Common Council on November 6, 2012 in Resolution R-12-200 as the "Resolution Route." (Ex. W-McBride-9.) At the eastern terminus of Segment 3, the route transitions to underground prior to proceeding south to Watertown Plank Road. This would avoid negative impacts to the existing office building to the west of this section of Underwood Creek Parkway and on the potential future development of the parcel to the east. While there would be an overhead portion of this route, it would have a host of constructability issues related to crossing Watertown Plank Road from the north when compared to Wauwatosa Alt-1, as well as have cost issues, according to ATC. With regard to such constructability issues, ATC witness Mr.

Aeschbacher testified that: the route would cross existing utility infrastructure (e.g., a gas line, communication fiber optics that run in an east-west direction on Watertown Plank Road); construction would likely close Watertown Plank Road for at least a portion of the construction activity; and construction may conflict with other Department of Transportation work. (Tr. Vol. 2 at 17.)

Natural Resources

Wetlands exist along several of the East-West Route alternatives. Some of them would be crossed by overhead line and some by underground line during transmission line construction. Because of span length requirements and ROW limitations, some impacts to wetlands would be unavoidable. In addition, construction access through wetlands would be required for some pole locations. ATC would attempt to minimize wetland impacts during final route design and access planning. ATC's construction methods would limit wetland impacts by using matting and by not removing tree roots. (Direct-ATC-Parrett-at 4-9, Rebuttal-Parrett-at 16-21, Tr. Vol. 2-Parrett-at 193-198) The DNR strongly prefers the A Route options because they avoid impacts to wetlands associated with Segments 8a and 8b. (Direct-DNR-Callan-at 5.)

Route A would likely have four structures placed in wetlands and affect potentially 0.77 acres of wetland habitat. A portion of Segment 3 is located near a recently restored portion of Underwood Creek, east of STH 100. The ROW along this segment includes 0.71 acres of wetland. Segment 5 crosses a wet meadow wetland along the western portion of the County grounds. Species observed within this community are typical of lower quality habitat. This area contains 0.06 acre of wet meadow.

Segment 8a, common to all of the Route B options, is located within the wooded wetland community associated with the natural portion of Underwood Creek. This type of community is

uncommon in urban settings. DNR identifies Underwood Creek as a Natural Heritage Inventory (NHI) waterway and considers it an Area of Special Natural Resource Interest. It would be necessary to permanently clear 0.92 acre of wooded wetland if this segment is used and three transmission structures would be placed in the wetland. The alternative Segment 8b potentially would require the permanent clearing of 0.19 acre of wooded wetland and two structures placed in wetlands.

Additionally, Segment 10UG, which is part of Route B(3), would require temporary impacts within three wet meadow areas. Based on preliminary designs, approximately 0.04 acre of wetland would be excavated during construction of this underground segment, then restored to pre-construction conditions.

Several of the East-West Routes cross upland woodland communities. The largest block of wooded lands occurs within the Underwood Parkway, west of 115th Street, on the B Route options (Segment 8a), with 1.44 acres of upland woodland located within the proposed ROW and 0.92 acre of wooded wetlands. The vegetative community observed along Segment 8a is generally comprised of mature disturbed mesic woodland adjacent to the railroad corridor. This mesic woodland transitions to a hardwood swamp/floodplain forest community associated with Underwood Creek at its northern end. Other smaller woodlands are found on Segments 9a (1.25 acres within the ROW) and 9b (0.23 acre), near the Underwood Parkway, and scattered along other segments. Alternative Segment 8b, located on the south side of the concrete channel carrying Underwood Creek, contains 2.26 acres of primarily upland woodland, mainly consisting of thickly-growing volunteer trees on the Underwood Creek embankment and more widely-spaced trees in a park-like setting on the level ground.

Other wooded areas within the ROWs are comprised of scattered trees within areas of grassland or lawn. These wooded areas are primarily located within the Underwood Parkway (Segment 8b) and on the Milwaukee County grounds property along Swan Boulevard (Segment 5), and Watertown Plank Road (Segment 6). The route segments passing through these areas contain 2.26, 0.49, and 1.34 acres of woodland, respectively. Many of the trees along Segment 6 will be cleared as part of the development of the UW-Milwaukee Innovation Center.

In summary, Route B(1) would require the loss of about 4.8 acres of upland woods and nearly one acre of wooded wetland. Routes B(2) and B(3) would require clearing approximately 2.7 and 3.0 acres of trees, respectively. In comparison, Route A could result in the loss of about 2.2 acres of upland trees.

The upland woods present along the route alternatives are located mostly on Milwaukee County property and are used for recreational purposes. The trees vary in size and age throughout the project area (and within individual stands), but are generally greater than 18 inches diameter at chest height.

Route B options for the east-west line all impact the Underwood Parkway. Route B options all impact the Oak Leaf Trail located in the parkway, primarily due to visual effects. Segment 8a has the greatest natural resource impact of any segment on any route because it requires the clearing of 0.92 acres of wooded wetland and 1.44 acre of upland woodland. Route B(1) would result in the most woodland impact of any route, 5.76 acres.

Monarch Trail

A migratory stopover point for monarch butterflies is located on the undeveloped areas of the Milwaukee County grounds, north of Watertown Plank Road and east of USH 45. The Friends of the Monarch has established the Monarch Trail, where the public may view butterfly

roosting trees and nectaring areas. A plan has been developed to protect this important habitat. The areas to be protected are located north of Segment 10UG. Segment 5 (Routes A and B(1)) crosses the southern part of the Monarch Trail, which is in an area expected to become a new freeway ramp as part of the USH 45 reconstruction project. This portion of the habitat would be lost to highway reconstruction.

The deed for the property being developed as the UW-Milwaukee Innovation Park northeast of the intersection of Watertown Plank Road and USH 45 requires that a portion of the property be maintained in perpetuity as a natural area and prohibits building, construction activities, or other disruptive improvements. A habitat protection and restoration plan has been developed for the area that is intended to preserve and enhance Monarch butterfly roosting sites. Segment 10UG crosses the UW-Milwaukee property south of the natural area. The natural area would not be directly or permanently impacted by construction and operation of the transmission line.

The ROW is likely to be expanded so that Segment 5 would lie within a freeway ramp area. However, WisDOT has indicated in several letters addressed to ATC that there would be sufficient space in its ROW for locating the proposed transmission facilities, both overhead and underground, as described in the application.

Environmental Corridor

The part of the Route B options along Underwood Creek from the transmission line tap at 120th Street to east of STH 100 is considered a primary environmental corridor by the Southeastern Wisconsin Regional Planning Commission. Most of Segments 8a, 8b, 9a, 9b, and 3 are located within this corridor. Such a corridor is even more highly valued in the very urbanized

Milwaukee metropolitan area. A transmission line built in the corridor would tend to detract from its natural qualities, particularly where permanent tree clearance would be required.

Underwood Creek Parkway was determined to be eligible for listing in the National Register of Historic Places. For the purposes of the eligibility survey, the boundary of the parkway was generally defined to include Underwood Creek, the parkway, and park space along the creek. Segments 3, 8a, 8b, 9a, and 9b cross or are parallel to Underwood Creek within the parkway boundary.

Residences

Residential buildings are located throughout the project area and are located in close proximity to the route alternatives. Most of the single family homes are located along Segment 1UG on Walnut Road (Route A).

Table 1 Residence Distances from ROW Centerline (East-West Routes)

Route	0-25 ft	26-50 ft	51-100 ft	101-150 ft	151-300 ft	Total
A	0	10	9	4	43	66
B(1)	0	0	1	1	9	11
B(2)	0	0	1	1	9	11
B(3)	0	0	1	1	9	11

On Segment 8b (an alternative to Segment 8a for the B Routes), 19 single-family residences are located within 300 feet of the centerline, all between 151 and 300 feet. Using this segment instead of Segment 8a would increase the residence total for the Route B options by 11. Not reflected in Table 1 above are a multi-family residence with greater than 16 units located between 51 and 100 feet from the centerline of Segment 1UG (Route A) and another similarly sized multi-family building between 151 and 300 feet from the centerline of Segment 9a (all Route B options).

Aesthetics

Segments 8a, 8b, 9a, and 9b (Routes B(1-3)) are located in Underwood Parkway, paralleling Underwood Creek. These segments would require the clearing of trees, both landscape trees and volunteer trees, growing along the edge of the creek's concrete-lined channel. The trees along Segment 8b that would be removed now provide additional screening of the nearby heavily-used railroad tracks and the concrete-lined channel of the creek.

An overhead transmission line built on Segment 9a (Routes B(1-3)) would be readily visible to users of the recreational Oak Leaf Trail. The transmission line ROW would be kept clear of tall-growing trees and shrubs, but could be planted to native grasses and forbs to provide habitat and visual interest. The Milwaukee County Parks Department has plans to relocate the trail west of 115th Street to an off-street location from its current location on Underwood Parkway Drive. This would place the trail even closer to the new line, if it is built on Segment 8b. The line's presence could influence the new placement of the trail.

Overhead Segments 3, 5, and 6 of Route A parallel STH 100, USH 45, and Watertown Plank Road, respectively, and would be readily visible to motorists on these heavily-traveled roads. Segments 5 and 6 of Route B(1) would be similarly visible.

One additional pole and the replacement of two lattice towers with taller single poles would be required where the new east-west line would tap the existing north-south transmission line between 119th and 120th Streets. These tap facilities would be more visible on Route A than the facilities for the tap location for Routes B(1-3). The Route A tap would be located north of Walnut Street, near several homes. The tap for the Route B options, although located at the edge of a residential neighborhood, would be further from nearby homes and effectively screened by

more trees. Additional structures and a switch would be located further west along the tapped transmission line, adjacent to a trucking terminal.

Positions of the Parties

Wauwatosa's position is that a modified Route A (the Wauwatosa Resolution Route) represents the most cost effective route while minimizing community concerns and should be approved by the Commission. The Route B options, on the other hand, should not be approved. Wauwatosa does not take a position on the North-South Route for the project.

Wauwatosa is opposed to all Route B options (Routes B(1), B(2), and B(3)) because of what it considers unacceptable environmental and land use impacts. These routes would cause permanent impacts to forested wetlands resulting in the elimination of the wetlands' functional use. Because there is a reasonable alternative to the B Route options, impacts to these wetlands should not be allowed, it asserts. Wauwatosa believes that these routes would unreasonably interfere with the aesthetics of land and recreational uses along the Underwood Parkway.

Wauwatosa also maintains that the B Route options have unacceptable economic impacts. Mr. Mendl stated that while underground lines are more expensive to build, in dense urban settings, they are sometimes the only choice, the best choice, or the most economic choice. When factoring in the added costs incurred by the community including restricted opportunities for economic development, reduced property values, reduced property taxes, the alleged economic advantages of overhead construction are greatly diminished. (Direct-W-Mendl-3; Surrebuttal-W-Mendl-22-23; Mendl, Tr. Vol. 5 359-365, 369-374; Ex.-W-Mendl-3; Wauwatosa Init. Br. at 9-11, 14; Wauwatosa Reply Br. at 5.)

The B Route options follow the heavily-used Oak Leaf Trail and Underwood Parkway. In an area of dense urban development, Wauwatosa, along with Milwaukee County, has taken

proactive steps to preserve an area of natural beauty that provides an area for wildlife as well as for people to enjoy. (Direct-W-Enders-at 4, 9.). Wauwatosa claims either of the aboveground Segments 8a or 8b would negatively impact the homes near Underwood Parkway, nature viewing, and outdoor activities. Wauwatosa also feels that Segments 9a and 9b would cause aesthetic impacts, affecting the economic value of the land along those routes.

Two alternatives to ATC's Route A were subsequently developed (Wauwatosa Alt 1 and Wauwatosa Alt 2). During the public hearing, Wauwatosa witness McBride clarified that Wauwatosa's preferred route (Wauwatosa Resolution Route) would have its transition back to underground north, rather than south, of Watertown Plank Road, at the east end of Segment 3. (Tr. Vol. 2-McBride-at 58). ATC prefers a transition on the south side of Watertown Plank Road.

Wauwatosa recommends moving Segment 1UG to underneath the pavement of Walnut Road to reduce the impacts to the residents along that street. The transition structure at Walnut Road and 120th Street should be configured to minimize the impacts to the surrounding neighbors. Wauwatosa also recommends to extend the alignment of Segment 1UG further east past the extension of 113th Street to minimize interference with a new housing development.

Wauwatosa witness Miner estimated the impact of Segment 4 to be significant because he claims the highest, best use would be transformed from Class A Office Space to some form of industrial or warehouse use. (Direct-W-Miner-at 3-10) However, ATC witness Dr. Thomas Jackson concluded that properties he examined in Dane, Milwaukee, and Waukesha counties near transmission lines either did not show any diminution in property value or the value of the property increased. He also concluded that Mr. Miner's impact analysis of the proposed routes on property values in Wauwatosa lacked validity. (Rebuttal-ATC-Jackson-at 4.) Along Segments 5 and 6, Wauwatosa cites negative impacts that include decreased property values,

diminished aesthetics, and reduced marketability. The Wauwatosa Alt-1, Wauwatosa Alt- 2, and Wauwatosa Resolution Routes avoid these areas, avoiding possible development impacts.

Milwaukee County supports the routes suggested by Wauwatosa. It maintains that parkways should not be highways for transmission lines. Overhead lines would severely damage the economic potential of nearby lands. Milwaukee County supports underground lines.

PFP states that Route A and Wauwatosa Alt-1 or -2 are in the public interest and should be selected by the PSC. The one route that has received substantial public support is the all underground route first proposed by Wauwatosa (Wauwatosa Alt 2).

PFP believes that the CPCN application, in endorsing overhead lines where feasible underground options are available, does not meet the public interest test and will have undue impacts on other environmental values, and thus should not be approved as proposed.

All-underground routes—both the north-south and the East-West Routes—are in the public interest with widespread public support, and will have significantly less adverse impacts on other environmental values than other routes proposed by ATC. The PSC should select an underground alternative because it would minimize the impact in a high density, residential, and sensitive environmental area. The reasonable alternative is feasible from an engineering perspective, and is a cost-effective underground solution for this high density area. PFP Witness Mr. Gonwa testified that ATC's cost estimates for portions of the potential underground alignments are overly conservative. Using such conservative assumptions generates cost estimates for underground construction at a level much higher than ATC will likely spend and biases the economic analysis of alternatives away from underground routes. PFP states on brief that ATC's transmission line cost calculations do not consider the costs to the community, including quality of life issues and that the extra cost associated with underground lines is

justified when these issues are considered. (Direct-PFP-W. Gonwa-17-18; Gonwa, Tr. Vol. 2 230-222; Ex.-PFP-E. Gonwa-at 3-4; PFP Init. Br. at 6-8; PFP Reply Br. at 7-8.) Past PSC precedent supports the underground installation of electric power lines through highly-urban residential areas. Finally, running above ground electric power lines along the Underwood Creek Parkway does not comport with Wisconsin energy policy and should not be approved by the PSC. PFP argues that the lines can and should be placed underground along one of the Route A alternatives supported by Wauwatosa. PFP states that these alternatives are supported by Milwaukee, Wauwatosa, Milwaukee County, and We Energies, as well as a broad cross-section of residents, business owners, community organizations, and institutions.

Wisconsin Lutheran College supports an underground route that would go west of its baseball/softball facilities to Watertown Plank Road (such as the Wauwatosa Alt-2 and Wauwatosa Resolution Routes) because it would be aesthetically pleasing and would eliminate the potential noise issues related to overhead lines. Additionally, the College supports the all-underground alternative routes consistent with those which WEPCO, Wauwatosa, and Milwaukee have previously endorsed.

Residents on Walnut Road prefer routes beginning in the Underwood Parkway so as to avoid impacts along Walnut Road. (Tr. Vol. 4-at 313-346, Delayed Ex.-PSC-Wali-1 at 73-135.) They are particularly concerned about the aesthetic impact of the required transition structures. Residences near the A Route options' interconnection point would be more severely impacted by the transition structures than those near the B Route options interconnection point. They argue that nothing would be gained for the additional cost of a Walnut Road Route. There is a false appearance of consensus for Route A, they claim.

Many members of the public, including several citizen groups, say that routes should not be located in parkland, such as the Underwood Parkway with its Oak Leaf Trail. Route B could impact environmental corridor and creek restoration efforts for flood control. Homeowners along Underwood Parkway are also concerned about property values. People are also concerned about the health effects of a new line. (Tr. Vol. 4-at 274-276, 286-289, 297-302, 305-307, 350-351, Ex.-PSC-Kitsebel-2, Delayed Ex.-PSC-Wali-1.)

DNR testified that wetland impacts associated with the A Route options are significantly less than those associated with the B Route Options. All routes are permissible.

(Direct-DNR-Callan at 3-6)

Commission Alternatives

Alternative One: Approve Route A-Walnut Road Hybrid.

Alternative Two: Approve Route B(1)-Underwood Creek Overhead.

Alternative Three: Approve Route B(2)-Underwood Creek Overhead-Watertown Plank Hybrid.

Alternative Four: Approve Route B(3)-Underwood Creek Overhead-County Grounds Hybrid.

Alternative Five: Approve Wauwatosa Alt-1-Hybrid Route.

Alternative Six: Approve Wauwatosa Alt-2-Underground.Route.

Alternative Seven: Approve Wauwatosa Resolution Route.

Alternative Eight: Approve Route A-Alt-1.

Alternative Nine: Approve a different route that is not listed here.

Alternative Ten: Do not approve any route.

North-South Route Alternatives

ATC proposed in its application four possible routes to connect the 96th Street Substation to the new MC Substation. Additional routes were proposed by other entities. The North-South Routes now under consideration are:

- C(1)—Highway 45 Overhead
- C(2)—95th Street Underground
- C(3)—Highway 45 Hybrid
- D—92nd Street Underground
- C-Alt-1—Montessori Easement
- C-Alt-2—PSC Hybrid
- Montessori USH 45 Underground
- S-2 Underground
- S-3 Underground

C(1)—Highway 45 Overhead consists of Segments 11, 12a, 12b, 13, 14, 6, and 7.

(Ex.-PSC-Rahn-2.) The route begins at the 96th Street Substation and follows the east edge of the USH 45 freeway ROW behind the Parkside Pool Apartments, the Montessori School, and St. Therese Church properties north to Watertown Plank Road, crossing Bluemound Road and Wisconsin Avenue. At Watertown Plank Road, the route turns east to follow the north side of the street until it reaches a point just south of the proposed substation site. The route then turns to proceed north into the substation. The total route length is 1.5 miles with an estimated cost of \$5,112,950.

C(2)—95th Street Underground consists of Segments 11UG, 12UG, 15UG, 16UG, 17UG, 18UG, and 19UG (Ex.-PSC-Rahn-2). The line would be buried for the entire length of the route. The line would begin at the 96th Street Substation and after running cross-country for 0.2 mile would be buried beneath 95th Street as it heads north, crossing Bluemound Road. At Wisconsin Avenue, the route proceeds east a short distance within the street ROW to 94th Street. It then turns north to continue to Watertown Plank Road, mainly following 94th and 95th Streets.

At Watertown Plank Road the route turns east and continues east until it reaches a point just south of the proposed substation site. The route then turns to proceed north into the substation. The total route length is 1.4 miles with an estimated cost range of \$15,307,150-\$19,040,300.⁴

C(3)—Highway 45 Hybrid consists of Segments 11, 12a, 12b, 13, 20UG, 17UG, 18UG, and 19UG (Ex.-PSC-Rahn-2). Route C(3) combines the southern part of Route C(1) for its aboveground part and the northern end of Route C(2) for its underground part. The route transitions between those two routes, using Segment 20UG, at a point approximately half way between Wisconsin Avenue and Watertown Plank Road. The total route length is 1.4 miles with an estimated cost of \$9,902,050–\$11,592,200.

D—92nd Street Underground consists of Segments 21UG, 22UG, 16UG, 17UG, 18UG, and 19UG. (Ex.-PSC-Rahn-2.) The line would be buried for the entire length of the route. The route heads east from the 96th Street Substation until it reaches 92nd Street. It then turns north, following 92nd, Michigan, and 93rd Streets to Wisconsin Avenue, crossing Bluemound Road. At Wisconsin Avenue, the route continues west for a short distance to 94th Street. It then turns north to continue to Watertown Plank Road, mainly following 94th and 95th Streets. At Watertown Plank Road the route turns east and continues east until it reaches a point just south of the proposed substation site. The route then turns to proceed north into the substation. The total route length is 1.6 miles and the cost is estimated at \$16,488,450-\$20,748,100.

C-Alt-1—Montessori Easement is a route proposed by MMS that uses a slightly more direct underground alternative to Segments 11UG, 12UG, and 15UG. The southern end of Segment 11UG and the northern end of Segment 15UG are the same as the C(1) Route, but the middle portion crosses through the parking lots of the Parkside Pool apartment building, Saint

⁴ Cost ranges in this section of the memorandum are based on whether any underground portion would have one or two cables per phase. See Ex.-ATC-Aeschbacher-6 (Revised).

Therese Church, and the Montessori School instead of being buried in 95th Street. The alternative would continue north of Bluemound Road through a property that is USH 45 ROW. (Ex.-ATC-Aeschbacher-3, See [PSC REF#: 169148](#).) The cost has been estimated at \$14,139,954-\$17,956,851.

C-Alt-2—PSC Hybrid consists of Segments 11UG, 12UG, 15aUG, 24UG, 13b, 14, 6, and 7. The route is similar to the C(2) underground route south of Wisconsin Avenue and similar to the C(1) overhead route north of Wisconsin Ave. (Ex.-ATC-Aeschbacher-3, See [PSC REF#: 169150](#).) The cost has been estimated at \$10,759,000-\$12,606,000.

Montessori USH 45 Underground is an underground route on the west side of the Parkside Pool Apartments, Milwaukee Montessori School, and St. Therese's Church, along a soon to be rebuilt section USH 45. Estimated costs for this route were not entered on the record.

S-2 Underground is a variation on the C(2) Route that turns east on Wisconsin Avenue and proceeds north beneath 92nd Street through the Milwaukee Regional Medical Complex (MRMC) to the new MC Substation site. (Ex.-MMS-Van Aken-20-at 4.) Estimated costs for this route were not entered on the record.

S-3 Underground is a variation on the Montessori USH 45 Underground Route that turns east on Wisconsin Avenue and proceeds north beneath 92nd Street through the MRMC to the new MC Substation site. (Ex.-MMS-Van Aken-20-at 4.) Estimated costs for this route were not entered on the record.

Route Discussions

All C Route options begin at the 96th Street Substation. Route C(1) follows the east edge of the USH 45 freeway ROW past a large apartment building (Parkside Pool Apartments), Milwaukee Montessori School, and Saint Therese Church. South of Wisconsin Avenue,

single-family residential neighborhoods lie to the east. North of Wisconsin Avenue, the route skirts the western edge of the MRMC. Route C(2) goes through these same areas, but is shifted to the east side of the apartments, school, and church, where the line would be buried beneath 95th Street. Cannon Park is to the east, bordering Segment 11UG. Segments 16 UG and 17UG are mostly buried under 94th and 95th Streets as they pass through the western part of the MRMC. Route C(3) combines the southern part of Route C(1) where it is overhead and the northern end of Route C(2) where it is underground.

Route D begins at the 96th Street Substation and passes through residential neighborhoods south of Wisconsin Avenue. A small commercial area is located at the intersection of 92nd Street and Bluemound Road. North of Wisconsin Avenue, the route crosses the grounds of the MRMC.

For the C-Alt-1 Route, the Milwaukee Montessori School has suggested a slightly more direct underground alternative to Segments 11UG, 12UG, and 15UG. The route compares closely to Route C(2) in its overall impacts. The southern end of Segment 11UG and the northern end of Segment 15UG are the same as for the ATC-proposed Route C(1) but the middle portion of this alternative route would cross through the parking lots of the Parkside Pool Apartments, Saint Therese Church, and the Montessori School instead of being buried in 95th Street. This would move the line further away from homes on the east side of 95th Street and closer to the school and church. Temporary traffic disruption from construction work on 95th Street would be avoided. The alternative would continue north of Bluemound Road through a property that is USH 45 ROW. The route also differs from Route C(2) between Wisconsin Avenue and Watertown Plank Road, where it would cross grassy areas near USH 45 on the MRMC grounds instead of being buried under Wisconsin Avenue and 94th Street. Doing so would reduce or eliminate temporary construction impacts to those streets. This alternative may

have the advantage of a slightly reduced cost and less construction impact to 95th Street traffic. However, the cost savings may not be realized if jack and bore construction is necessary to cross under the USH 45 ramp from Wisconsin Avenue.

Commission staff, who proposed the C-Alt-2 Route in an attempt to minimize overall environmental impact and project costs, considered a route combination that was not offered by ATC in its application. It would pair East-West Route A-Alt-1, and a North-South Route C-Alt-2. This particular route combination would bury the line past the Parkside Pool Apartments, Milwaukee Montessori School, St. Therese Church, and homes south of Wisconsin Avenue, largely eliminating the concerns of these landowners and the school community. It would also meet ATC's reliability guidelines for a Level One Trauma Center.

The Montessori USH 45 Underground Route along the east edge of the WisDOT USH 45 ROW proposed by MMS consultant, Pike Engineering, is not feasible and should be rejected for several reasons, ATC asserts. (Tr. Vol. 2-Holtz- at 34-36.) First, in consultation with WEPCO, ATC identified mutual heating problems and compression issues with this route. Because of these issues, WEPCO advised ATC that this route was not acceptable. Second, the underground alternatives east of MMS (under 95th Street) would be easier to construct and maintain than an underground line along the USH 45 ROW. Additionally, this underground route would require that the current plans for construction of a performing arts building be changed. (Tr. Vol. 2-Holtz- at 38.)

The S-2 and S-3 Routes jointly recommended by Milwaukee and We Energies Chairman, President, and Chief Executive Officer Gale Klappa are similar to underground Route C(2) proposed by ATC and the MMS-proposed route (Montessori USH 45 Underground) between the school and USH 45. The significant difference between these routes is that they follow 92nd

Street between Wisconsin Avenue and Watertown Plank Road, through MPMC grounds. This difference causes these routes to have greater impact than the corresponding routes of ATC and MMS, due to their greater length and for the reasons laid out in the direct testimony of ATC witness Peter Holtz (Direct-ATC-Holtz-23), namely, interference with MPMC infrastructure, expansion plans, and emergency vehicle traffic.

Residences

Residential buildings are located throughout the project area and are located in close proximity to the route alternatives. Most of the single family homes are located along Segments 12UG and 15UG along 95th Street (Routes C(1), C(3), and C-Alt-2) and on Segment 22UG along 92nd Street (Route D).

Table 2 Residence Distances from ROW Centerline (North-South Routes)

Route	0-25 ft	26-50 ft	51-100 ft	101-150 ft	151-300 ft	Total
C(1)	0	0	0	0	7	7
C(2)	0	1	20	5	36	62
C(3)	0	0	0	0	7	7
D	0	2	53	28	84	167

Not reflected in Table 2 above is one multi-family residence with greater than 16 units located between 26 and 50 feet from the centerline of both Segments 11 and 11UG.

Routes C(1) and C(3) pass overhead near the Parkside Pool Apartments, Milwaukee Montessori School, and St. Therese Church. Routes C(2), C-Alt-1, and C-Alt-2 are underground near these properties, and Route D avoids them entirely and is also an underground route. Route D passes near the most homes of any route (167), but burying the line would largely alleviate the concerns of nearby landowners. While Route C(1) is nearest the fewest homes of the North-South Routes (eight), it would be overhead as it passes the homes. Construction work in

92nd Street for Route D would be more disruptive to traffic than work in 95th Street for Routes C(2) and C-Alt-2, because 92nd Street is the busier street.

Underground Segments

Segments 11UG, 12UG, and 15UG of Routes C(2) and C-Alt-2 proceed north from the 96th Street Substation, through the parking lot of an apartment complex, to 95th Street, where the line would continue north in the southbound lanes (western portion) of 95th Street to Wisconsin Avenue. At that point Segment 15 turns and proceeds east in the Wisconsin Avenue ROW to 94th Street. Segments 12UG and 15UG would be constructed within the paved portions of the street. Some of the transmission line ROW for Segment 15UG would overlap the USH 45 ROW. Temporary construction ROW would be 20 feet wide. These route segments pass in front of an apartment complex, the Milwaukee Montessori School, and the Saint Therese Church, all three of which have expressed a desire to have the line underground rather than aboveground. There would be temporary noise and dust disturbance to apartment residents and visitors to the church and school. However, building users have indicated that these temporary construction impacts would be preferable to the perceived impacts of a visible, aboveground transmission line.

Segments 16UG and 17UG of Routes C(2), C(3) and D would be constructed through the MRMC campus, between Wisconsin Avenue and Watertown Plank Road, following parts of 94th and 95th Streets, with short crossings of lawn areas. Use of these segments takes into account future plans for expansion of the MRMC campus and the WISDOT's planned expansion of USH 45. Lane closures would be necessary during construction.

Segments 21UG and 22UG of Route D connect to Segment 16UG just north of Wisconsin Avenue. Route D proceeds east from the 96th Street Substation site, turning to continue north in the northbound lanes of 92nd Street. All work would take place within the

street ROW. The transmission line would stay in street ROW as the route curves west and north along Michigan Street, then west along Wisconsin Avenue. 92nd Street is a divided residential street with some businesses at its intersection with Bluemound Road. There are mostly medium-sized landscape trees in the median and between the sidewalk and curb. Some trees would be removed by the proposed construction.

Aesthetics

An overhead transmission line in the highly-developed project area would be visible to many people in the course of their daily activities. This would be especially true for an overhead line along the heavily-traveled USH 45 freeway, and to a lesser degree, along STH 100 and Watertown Plank Road. Underground lines are largely hidden, although the cleared ROW may be noticeable in wooded areas. Residential areas are perhaps most sensitive to aesthetic impacts from a transmission line.

Burying the line beneath the paved street surface would eliminate the long-term aesthetic impacts of those segments. This would be the case for the great majority of the underground route segments proposed for Routes C(2), C(3), C-Alt-1, C-Alt-2, and D. Segment 19UG would be buried on the Milwaukee County Power Plant property. Long-term aesthetic impacts are largely avoided on Routes C(2), C-Alt-1, and D because they are entirely underground.

The overhead Segments 12a, 12b, 13, and 14 of Route C(1) parallel the USH 45 and would be highly visible to motorists on this heavily-traveled freeway. Segments 12a, 12b, and 13 of Route C(3) would be similarly visible. Segment 6 of Route C(1), which parallels Watertown Plank Road, would be visible to motorists and pedestrians. Segments 11 and 12a of the route would be very close to the Parkside Pool Apartments and the new line would be a prominent feature near the building.

Milwaukee Montessori School

The Milwaukee Montessori School is located between Segments 12b and 12UG. It also runs an associated day care at that location. The school's operators and its associated community of parents, employees, and neighbors are concerned that an overhead line, as proposed for Segment 12b, would drive prospective and existing students away from attending the school, due to concerns about health impacts from magnetic fields, thereby threatening the continued existence of the school. The potential loss of revenue from the renting of facilities to the school is also a concern of St. Therese parish, which owns the property housing the school's gym and parking lot. The parish also claims an overhead line on the west side of the church property would inhibit the use of the church grounds for such current activities as athletics and church fairs. The parish and school believe that an underground line would not present a threat to the continued current uses of the property.

Positions of the Parties

MMS states that an overhead route along USH 45 near MMS, St. Therese Church, and Parkside Pool Apartments is not in the public interest. It would cause MMS to close and result in economic and individual hardship. An underground line in this location is feasible. (Direct-MMS-Akers-at 2-4, Exs.-MMS-Akers-1-3.) Burying the line near the school, church, and apartments would avoid most negative impacts and is supported by MMS. Any line in the vicinity of MMS should be buried. Routes C(2), C-Alt-1, C-Alt-2, and D are acceptable. It also asserts that Route C-Alt-1 is less expensive to construct than Route C(2), partly because MMS would donate an easement on its property.

Because it is an independent private school with parents who are able to remove their children and enroll them elsewhere, MMS claims it is more vulnerable. MMS sponsored the

testimony of several hired expert witnesses, who together argue that constructing an overhead transmission line in the vicinity of MMS would result in the financial crippling and eventual closure of the school. (Direct-MMS-Bose-at 4-21, Direct-MMS-Everett-at 5-7, Direct-MMS-La-at 3-9, Direct-MMS-Snowden-at 4-7). These witnesses testified that if the line is built overhead, attrition of existing students would result in an enrollment decline of 50 percent in the first year. (Tr. Vol. 5-MMS-Bose-at 451-452.)

MMS also asserts that ATC did not adequately consider the individual hardships to teachers, parents, and students caused by the MMS closing. It also claims that ATC's cost estimates are not accurate as ATC has not adequately considered or evaluated the cumulative and synergistic impacts when estimating the costs. MMS states ATC did not adequately consider indirect external costs, such as increased costs for public school districts enrolling MMS transfer students, and the loss of sales to MMS by vendors. The individual hardships and economic impacts it would experience from an overhead line near the school are unreasonable and unnecessary in light of the feasible, cost-effective, and reasonable underground alternatives available. An empty school building would also blight the neighborhood, reducing property values. (Direct-MMS-Van Aken-42; Rebuttal-MMS-Van Aken-3-4; Surrebuttal-MMS-Van Aken-9-10; Ex.-MMS-Van Aken-17, 18; MMS Init. Br. at 11-14, 16-17, 19; MMS Reply Br. at 1-2.)

MMS argues that construction of an overhead transmission line (Route C(1)) would also conflict with MMS' plans for a proposed performing arts building. (Direct-MMS-La-at 7.) ATC points out that the proposed WisDOT USH 45 expansion project caused the plans for a performing arts building to be placed on indefinite hold. (Tr. Vol. 5-Van Aken at 509.) Because

the plans are on hold, ATC asserts that its proposed C(1) and C(3) routes with an overhead line to the west of MMS would not interfere with MMS' plans for the building. (Tr. Vol. 2-Holtz-at 38.)

ATC asserted that the MMS photo simulations of an overhead line behind the school are inaccurate and provided a new photo simulation. (Ex.-ATC-Holtz-5.)

St. Therese Parish is supportive of buried lines and opposed to aboveground lines. (Tr. Vol.3-at 141-153.) It expects that it would lose members because of fears of aboveground transmission lines. Loss of rental income from MMS for the parish's gymnasium and parking lot could impact the church's ministries. The parish is willing to grant an easement for the line under its parking lot if that would cause the line to be buried.

PFP's position is that the most cost-effective all underground route that is feasible is in the public interest and should be selected. Both routes that it claims have received substantial public support (C(2) and S-2) are completely underground. (PFP Initial Brief at 4, Direct-PFP-E. Gonwa-at 1-8, Exs.-E. Gonwa-1, 2.)

Milwaukee states that only an underground route is in the public interest in the affected areas of Milwaukee. Milwaukee supports selection of either underground Route S-2 that runs along 95th Street or the underground Route S-3 that runs parallel to USH 45 in the backyard of the Milwaukee Montessori School and St. Therese Church. The Milwaukee Common Council supports an underground route, consistent with the position taken by MMS, St. Therese Parish, and residents of the surrounding neighborhood. It strongly supports underground route alternatives east of USH 45 because the residents and institutions along N. 95th Street just east of USH 45 are already subjected to high levels of noise, air, and aesthetic pollution stemming from the nearby freeway and the Zoo Interchange, and because of the fears of possible harmful human

health effects of overhead power transmission lines. (Direct-Milwaukee-Murphy-at 1-3, Exs.-Murphy-1, 2, Tr. Vol. 2-Murphy-at 8-9.)

Milwaukee County supports MMS's position and the routes supported by Milwaukee. (Ex.-PSC-Kitsebel-2 Part 2 of 62.)

Commission Alternatives

Alternative One: Approve Route C(1) Highway 45 Overhead.

Alternative Two: Approve Route C(2) 95th Street Underground.

Alternative Three: Approve Route C(3) Highway 45 Hybrid.

Alternative Four: Approve Route D 92nd Street Underground.

Alternative Five: Approve Route C-Alt-1-Montessori Easement.

Alternative Six: Approve Route C-Alt-2-PSC.

Alternative Seven: Approve Montessori USH 45 Underground Route.

Alternative Eight: Approve Route S-2 Underground along 95th Street and 92nd Street.

Alternative Nine: Approve Route S-3 Underground along USH 45 and 92nd Street.

Alternative Ten: Approve a different route that is not listed here.

Alternative Eleven: Do not approve any route.

- 9. If the Commission grants a CPCN, are there any conditions, besides the standard conditions for construction orders, that should be attached to the certificate?**

Commission Alternatives

To ensure that ATC complies with Wis.Stat §§ 196.491(3)(d) and 44.40, the Commission may adopt one or more of the following conditions:

Uncontested Alternative One: Clearing or trimming of oak trees shall take place outside of the April through October growing season. If this is not possible, oak stumps or

wounds shall be immediately treated with tree wound paint to prevent the spread of oak wilt disease.

Clearing or trimming of oak trees between April and October could possibly spread oak wilt to oaks present in the surrounding woodlands. Any loss of oaks to oak wilt could be more obvious in this project's urban setting than in rural areas. Clearing trees outside of this season is highly recommended. If this is not possible, immediate treatment of oak stumps or wounds with tree wound paint could prevent the spread of oak wilt disease. (Direct-PSC-Rahn-at 6.)

Uncontested Alternative Two: The following measures shall be used to avoid harming the rare snake species that could be present in the project area:

- Locate poles outside of wetland areas and/or suitable overwintering habitat, and complete work during the snake's inactive period from approximately the beginning of November to mid-March.
- Within suitable upland habitat, install exclusion fencing prior to mid-March of each year to prevent snakes from entering the construction work space.
- For poles and construction activity within wetlands use a combination of exclusion fencing followed by snake removals during the snake's active season prior to entry into wetland areas regardless of when construction will occur.

Habitat for a rare snake was previously evaluated in the area. During this evaluation, suitable habitat was identified in the project area. Because the project has the potential to impact the snake species, avoidance measures should be taken. (Ex.-PSC-Rahn-3-at 17.)

Uncontested Alternative Three: For any route originating at a Walnut Road tap, ATC shall work with the neighbors and Wauwatosa to develop screening of the drop structures.

Walnut Road residents and Wauwatosa are concerned about the aesthetic impact of the interconnection facilities proposed by ATC in its application. (Tr. Vol. 3-at 163-164) Under ATC's original proposal, a transition structure and the switch structure would both be close to a residential home, approximately 50 feet away. Three additional structures, spread over 160 feet, would be linked together by overhead conductors at elevations that are in plain ground level

view. This would convert a neighborhood characterized by greenway and open space and low level plantings under the existing conductors into a more industrial look—with 138 kV power lines at lower levels, much more visible and closer to residences. (Direct-W-Mendl at 3-7.)

Wauwatosa witness Mr. Mendl proposed a lower design, similar to designs used in substations, for the new switching and drop structures at the Walnut Road interconnection. ATC did not support this proposal. (Rebuttal-ATC-Holtz-at 28-29) The facilities within substations are much lower to allow easier access for maintenance and operational activities. Substations are generally located on large, open parcels that are fenced and usually have other security features, such as lighting. The fencing is necessary for security and safety reasons.

ATC subsequently proposed a new revised configuration (Ex.-ATC-Aeschbacher-8, p. 2) that adds only one new structure on the ATC property north of Walnut Road, a combination tap and transition structure, and replaces the same two existing lattice tower transmission line structures with monopole structures equipped with line switches. ATC pledged to work with the neighbors and City of Wauwatosa to develop screening, including fences, vegetation, or a combination of the two. (Rebuttal-ATC-Holtz-29.)

Wauwatosa agrees that the new ATC design is a significant improvement and requests that the drop structures have similar screening to what was proposed by Wauwatosa and agreed to by ATC. (W.-Initial Brief-pp. 4-5.)

Uncontested Alternative Four: Any underground line along Walnut Road shall be located beneath the paved part of the street.

ATC and Wauwatosa are in agreement that the line can and should be placed under Walnut Road in order to reduce impacts to the neighborhood. (Direct-W-Enders-at 8,

Direct-W-Mendl-at 7-8, Direct-W-Wehrley-at 3, 6-9, Tr. Vol. 2-Wehrley-at 104-105,
Rebuttal-ATC-Holtz-at 29-30.)

Uncontested Alternative Five: The underground portion of Route A (Segment 1 UG) shall be extended eastward, past 113th Street, and ATC shall consult with Wauwatosa regarding the placement of any transition structures.

A new housing development is located entirely west of North 113th Street extended and adjacent to the Wauwatosa City Public Works site. Extending the underground Segment 1UG further east past North 113th Street extended would mitigate any impacts on the residential development. The location of the transition from underground Segment 1 UG to the overhead Segment 2 would have to be closely coordinated with the City Public Works operations. Prior to identifying a suitable spot for this transition, Wauwatosa would need additional information from ATC regarding the footprint of the transition structures and the necessary safety. Existing public works operations and the potential future dedication of Walnut Road extension as a city street ROW must be taken into consideration when locating the transition structure.

(Direct-PSC-Rahn-at 6, Rebuttal-Holtz-31, Surrebuttal-W-Wehrley-13.)

DL:00639827